

The Examiner rejected claims 1-3, and 5-9 under 35 USC §103(a) as being unpatentable over Marius (US 4,875,964) in view of Cooperman et al. (US 5,374,687) and further in view of Chang (US 4,200,561). Marius discloses a coating which contains a terpolymer and a solvent, wherein the terpolymer is formed from ethylene, acrylate and maleic anhydride. The Examiner argues that Cooperman et al.'s ethylene-acrylic acid copolymer is substantially identical to Marius' terpolymer and that it would have been obvious to one of ordinary skill in the art to replace maleic anhydride in Marius' with an acrylic acid as taught by Cooperman et al. The Examiner further argues that it would have been obvious to one of ordinary skill in the art to use a solvent and co-solvent, one incompatible with a thixotropic gel and the other compatible with the gel, with the composition disclosed by Marius in view of Chang's disclosure.

However, one of ordinary skill in the art would have no motivation to combine the references nor have any expectation that such combination would be successful. According to §103, in order to establish a prima facie case of obviousness, there must be (1) some suggestion or motivation to modify the references, (2) reasonable expectation of success and (3) the prior art reference must teach or suggest all of the claim limitations.²

There can be no suggestion or motivation to modify references where the proposed combination renders the cited references unsatisfactory for their intended purposes.³ In the case at hand, the combination of Marius and Cooperman et al. would render either reference unsatisfactory for its intended purpose. Furthermore, there would be no expectation of success in their combination.

As stated earlier, the terpolymer of Marius is composed of ethylene, acrylate and maleic anhydride. Therefore Marius does not teach an alkenecarboxylic acid. The Examiner would like to substitute the maleic anhydride for acrylic acid which is listed in Cooperman et al. However, the monomers used in the terpolymer of Marius are not equivalent to those used in the copolymer of Cooperman et al. While Cooperman et al. discloses the use of ethylene, the reference requires a copolymer with an acid range from about 20 to 300, and furthermore, the reference requires that the acid be neutralized. Therefore in Cooperman et al., due to the neutralization of the acid,

² See MPEP §2143

³ In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984); MPEP §2143.01
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it matters little whether an anhydride or an acid is used. Contrarily, in Marius there is no neutralization. Therefore the equivalency relied upon in Cooperman et al. between acids and anhydrides is not present in Marius. One of ordinary skill in the art would not expect success therefore in combining references, nor be motivated to combine references due to the large differences in conditions.

Furthermore, Cooperman et al.'s stated purpose is use as an additive to aqueous systems. However, Marius terpolymer utilizes an anhydride and is non-aqueous. It is unlikely that one of ordinary skill in the art would be directed to use an anhydride as an additive for aqueous solutions, wherein an anhydride's contact with water may not be preferred, especially in further view of the fact that Marius is non-aqueous.

Additionally, the Examiner states that Cooperman et al.'s copolymer is substantially identical to Marius' terpolymer. However, the disclosure of the references reveals the compositions are far from the same. Cooperman et al.'s copolymers are composed of ethylene, a carboxylic acid, and optionally vinyl acetate. As shown earlier, the carboxylic acid is neutralized, and furthermore, the vinyl acetate does not read on the ester of formula I in the current application. On the other hand, Marius discloses an ethylene and an anhydride as well as alkyl acrylate. Therefore, two of the three monomer units between the references differ, leaving ethylene as the only identical monomer. With such differences between the terpolymer and the copolymer, they cannot at all be considered substantially identical.

Furthermore, the terpolymer of Marius and the copolymer are directed toward much different purposes. Marius terpolymer is used as a coating, whereas Cooperman et al.'s disclosure states that Cooperman et al. is not used as a coating, but as an additive to a coating. Therefore there is no suggestion in Cooperman et al. that the copolymer's be used as a coating.

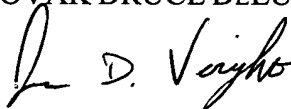
In light of all differences in compositions and purposes between the terpolymer and copolymer of Marius and Cooperman et al., including the neutralization and use of anhydride in a non-aqueous system, one of ordinary skill in the art would not be motivated to combine the references nor additionally combine Chang with such references. The purpose for which Cooperman et al. is intended would be frustrated by a combination with Marius, and furthermore one of ordinary skill in the art would not expect success in their combination.

The Examiner also rejected Claim 4, further in view of Ziegler et al. (US 5,210,166). The Examiner admits that the aforementioned references do not disclose the amount of components disclosed in claim 4, however the Examiner argues that Ziegler et al. relates to a polymer made from 89 wt% of ethylene, 4 wt% of acrylic acid and 11 wt% of two different acrylates and so renders obvious the current invention because of the closeness of ranges. However, it would not be obvious to one of ordinary skill in the art to combine this additional reference because the reference teaches away from the current invention, and also, not all the limitations required by the claim would be met. The polymers disclosed in Ziegler et al. are not waxes, but have elastomeric properties.⁴ Because elastomeric polymers are different from waxes, the limitations of the current invention are not met. Furthermore, the polymers molecular weight is far beyond the molecular weight of waxes, as can displayed by the melt flow indices in column disclosed in the reference.⁵ Finally, the (meth)acrylates disclosed in Ziegler et al. do not read on the ester of Formula I as disclosed in the current application. (Meth)acrylate in Ziegler et al. requires an alkylene ester group which does not read on R² in formula I of the instant claims. Therefore, because Ziegler et al. teaches away from the current invention, one of ordinary skill in the art would not have motivation to combine Ziegler et al. with the three earlier cited references to read on the current invention, nor does the reference in combination with the other cited references read on the current claim.

In light of the foregoing, the Applicant requests that the §103 rejections be withdrawn.

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Respectfully submitted,
NOVAK DRUCE DELUCA & QUIGG, LLP



Jason D. Voight

⁴ Ziegler et al., Column 1, line 60, and Column 4, line 42.

⁵ Ziegler et al., Column 1, line 57

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Fechtenkoetter et al.

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1300 Eye Street, N.W.
400 East Tower
Washington, D.C. 20005
202-659-0100